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**BEFORE THE ARIZONA CORPORATION COMMISSION**

LEA MÁRQUEZ PETERSON  
Chairwoman

SANDRA D. KENNEDY  
Commissioner

Arizona Corporation Commission

**DOCKETED**

JUSTIN OLSON  
Commissioner

**JUL 11 2022**

ANNA TOVAR  
Commissioner

JIM O'CONNOR  
Commissioner

**DOCKETED BY**

IN THE MATTER OF THE APPLICATION  
OF TUCSON ELECTRIC POWER  
COMPANY FOR APPROVAL OF ITS  
DISTRIBUTED GENERATION  
INTERCONNECTION MANUAL.

DOCKET NO. E-01933A-20-0116

DECISION NO. 78597ORDER

Open Meeting  
June 28 and June 29, 2022  
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT**Background**

1. Arizona Administrative Code ("A.A.C.") R14-2-2628(A) states:

No later than 90 calendar days after the effective date of this Article, each Utility shall file with Docket Control, for Commission review and approval, an Interconnection Manual that:

- i. Contains detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System in compliance with this Article and Good Utility Practice; and
- ii. Specifies by date, either within its main text or in an appendix, the version of each standard, code, or guideline with which an Applicant's Generating Facility must comply to be eligible for Interconnection and Parallel Operation.

2. In Decision No. 78496, dated March 2, 2022, the Arizona Corporation Commission ("Commission") approved Tucson Electric Power Company's ("TEP") Interconnection Manual ("Manual") with modifications. The Commission ordered TEP to facilitate the utilization of Meter

1 Socket Adaptors (“MSA”). Additionally, the Commission ordered TEP to develop a list of approved  
2 MSAs, file an annual report in the docket summarizing how many adaptors were deployed in its  
3 service territory during the previous calendar year, and file an application containing the results of  
4 the MSA trial program within 90 days of the program concluding.

5 3. In addition, Decision No. 78496, required revision to the manual to better comply  
6 with the spirit, intent, and text of the rules. The Commission also directed TEP to submit a revised  
7 Manual that includes the specific changes identified below within 30 days of the Decision.  
8 Specifically,

- 9 i. The Manual should be revised to better preserve the Super Fast Track and  
10 Fast Track designations recognized in the Rules. TEP is directed to pay  
11 attention to systems that qualify for these faster review tracks as well as  
12 Inadvertent Export and Non-Exporting systems to remove restrictions and  
13 burdens from these systems.
- 14 ii. The Manual should be revised to require TEP to address concerns over high  
15 deposit requirements and a lack of adequate documentation to support charges  
16 to customers for utility-supplied interconnection equipment.
- 17 iii. The Manual should be revised to not prematurely require inverters to comply  
18 with the Institute of Electrical and Electronics Engineers IEEE sections that  
19 are not yet developed or of which equipment is not yet capable of compliance.
- 20 iv. The Manual should be revised to modify TEP’s requirements around transfer  
21 trip infrastructure so as to not be overly burdensome, thereby saving hundreds  
22 of thousands of dollars for large installations such as those going onto schools.

23 4. On March 11, 2022, Staff met with AriSEIA to discuss its February 4, 2022, filing.

24 5. On March 17, 2022, Staff met with TEP to discuss AriSEIA’s February 4, 2022,  
25 filing.

26 6. On April 4, 2022, pursuant to Decision No. 78496, TEP filed a revised Manual.

27 7. On April 21, 2022, Staff met with TEP and AriSEIA to discuss TEP’s revised.

28 8. On May 12, 2022, TEP filed an additional revised Manual. This filing included both  
a redlined and clean version of the Manual, intended to highlight revisions based off discussions and  
feedback from AriSEIA and Staff.

9. On May 23, 2022, Staff met with TEP to discuss feedback from AriSEIA regarding  
specific sections of the revised Manual filing made on May 12, 2022.

1           10.     On May 25, 2022, based on additional feedback received from AriSEIA, TEP then  
2 filed another revised Manual.

3 **Staff Analysis and Recommendations**

4           11.     In Decision No. 78496, the Commission ordered TEP to amend its Revised Manual  
5 to facilitate the utilization of MSAs. During Staff's meeting with TEP on March 17, 2022, Staff  
6 provided suggestions to better align the text of the Manual with the Commission's Decision. TEP's  
7 revised Manual contains language detailing use of MSAs for generating facilities.

8           12.     The Decision also ordered TEP to revise its Manual to better preserve the Super Fast  
9 Track and Fast Track designations recognized in the Rules. In addition, TEP was directed to pay  
10 attention to systems that qualify for these faster review tracks, as well as Inadvertent Export and  
11 Non-Exporting systems, and remove restrictions and burdens from them. TEP's revised Manual  
12 contains updated language to clarify various requirements that do not apply to the systems listed  
13 above.

14           13.     The Commission ordered TEP to revise its Manual to address concerns over high  
15 deposit requirements and a lack of adequate documentation to support charges to customers for  
16 utility-supplied interconnection equipment. TEP's revised Manual includes an additional section  
17 clarifying the study fees customers are responsible for prior to beginning any study.

18           14.     Decision No. 78496 ordered TEP's revised Manual to not prematurely require  
19 inverters to comply with the IEEE sections that are not yet developed or of which equipment is not  
20 yet capable of compliance. The revised Manual contains notes clarifying that inverter functions  
21 detailed in IEEE 1547-2018 that have not yet been incorporated by the manufacturers will not be  
22 required.

23           15.     TEP was also directed to modify its requirements around transfer trip infrastructure,  
24 so as to not be overly burdensome, thereby reducing cost for large installations. The revised Manual  
25 has clarified the requirements for transfer trip infrastructure and noted that the necessary equipment  
26 shall be determined by the Facilities Study. In addition, TEP has removed several hardware  
27 requirements for specific types of generating facilities.

28 ...

1           16.     Decision No. 78496 ordered TEP to approve extensions on interconnection  
2 agreements that may be cancelled if the customer can demonstrate that permits have been acquired,  
3 equipment has been purchased, construction has commenced, or any additional funds in reliance on  
4 the interconnection agreement have been spent. TEP's revised Manual includes an additional  
5 section that provides a list of scenarios meriting an extension of time if the customer is able to  
6 demonstrate that any of the listed scenarios have occurred.

7           17.     TEP's revised Manual contains 16 sections and three appendices and is organized as  
8 follows: (1) Introduction, (2) Scope, (3) Applicability, (4) Definitions, (5) Applicable Standards, (6)  
9 Generator Facility Parallel Operations Modes, (7) Generator Types and Size Classes, (8) Application  
10 Review Requirements, (9) Interconnection Technical Requirements, (10) Dangerous Goods  
11 Metering Requirements, (11) Advanced Grid Support Features, (12) Testing and Start-up  
12 Requirements, (13) Operating and Maintenance Requirements, (14), Requirements for Momentary  
13 Parallel Closed Transition Switching of Backup Generators, (15) Interconnection Studies and  
14 Drawing Review, (16) Other Considerations, (Appendix A) Application Process Flow Charts,  
15 (Appendix B) Sample Single-Phase Solar PV Interconnection Diagrams, and (Appendix C) Energy  
16 Storage Configuration Diagrams.

17           18.     Staff has reviewed TEP's revised Manual and concludes it satisfies the requirements  
18 contained in the Commission's Interconnection Rules and complies with Decision No. 78496. Staff  
19 recommends the Commission approve TEP's revised Manual, filed on May 25, 2022.

#### 20                                   CONCLUSIONS OF LAW

21           1.     Tucson Electric Power Company is a public service corporation within the meaning  
22 of Article XV, Section 2 of the Arizona Constitution.

23           2.     The Commission has jurisdiction over Tucson Electric Power Company and the  
24 subject matter of the application.

25           3.     The Commission, having reviewed the application and Staff's memorandum  
26 concludes that it is in the public interest to approve Tucson Electric Power Company's Revised  
27 Interconnection Manual filed pursuant to A.A.C. R14-2-2628(A).

28     ...


ORDER

IT IS THEREFORE ORDERED that Tucson Electric Power Company's Revised Interconnection Manual, filed on May 25, 2022, is approved.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

**BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**  
CHAIRWOMAN MÁRQUEZ PETERSON  
COMMISSIONER KENNEDY  
COMMISSIONER OLSON  
COMMISSIONER TOVAR  
COMMISSIONER O'CONNOR

IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 11 day of July, 2022.

  
MATTHEW J. NEUBERT  
EXECUTIVE DIRECTOR

DISSENT: \_\_\_\_\_

DISSENT: \_\_\_\_\_

EOA:LH:ihf/SJE

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